

## 3. Baseline

The baseline is a time-sensitive snapshot of the current education and training courses, and the advanced training technologies, communication infrastructure, and partnering arrangements used to support and deliver courses within the DOE complex. The baseline was produced to set a point of reference for comparing current and future needs and for measuring on-going progress and program accomplishments.

### 3.1 Data Collection

The collection of the DOE-wide baseline data was the focus of the As-Is Workshop (the first business case workshop) held in June 1996. At that time, it was difficult to determine just what information would be needed for development of the business case. Therefore, the DOE “universe” (described in section 3.2) was identified as the scope of the baseline and as much data as possible was gathered. The universe included the following types of information.

- Education and training attendance, travel, and related cost data for Federal and contractor personnel throughout the DOE complex.
- Communication infrastructure including information on satellite uplink and downlink facilities, terrestrial-based transmit and receive capabilities, and multimedia-equipped computer workstations.
- Current education and training delivery methods including percentages of courses being delivered via interactive television; desktop video; multimedia/computer-based training; network-based training; and traditional methods such as instructor-led classroom training, on-the-job-training, and correspondence courses.
- Existing arrangements with educational institutions to provide education and training opportunities to DOE-wide Federal and contractor personnel.

The scope and nature of the baseline data collection process necessitated input from more than one source within each DOE element. An attempt was made to collect information management and training data for both Federal and contractor personnel at each site. Several data collection tools were used: gathering input directly from workshop participants, distributing follow-up written surveys, and conducting telephone interviews.

Data collection efforts confirmed early indications that comprehensive Departmentwide data was not available on operating expenses for education and training. Federal and contractor organizations currently use different methods and criteria for collecting and tracking operating expenses. These differences resulted in the available data having no common basis for consolidation or comparison.

## 3.2 Response Rate

DOE employee population data obtained in the summer of 1996, from the Office of Organization and Management and the Office of Worker Transition, indicated that 131 elements comprised the DOE complex. These elements included 28 Headquarters-based organizations, 76 field organizations, and 27 laboratories. Approximately 18,000 Federal personnel and 113,300 contractor personnel were employed throughout the complex. Appendix C, table C-2 includes a list of all organizational elements and employee populations that comprise the DOE complex.

Data collection efforts for the baseline focused on the 61 DOE elements with a population of at least 50 Federal or contractor employees. If data was received from smaller elements, the information was incorporated into the baseline. Of the 61 elements identified with populations of at least 50 employees, 38 elements (representing 62 percent of the target population) provided some type of input to the baseline data. The organizational elements that provided input to the baseline data are listed in appendix C, table C-1.

## 3.3 Summary of Results

The following sections provide a summary of the baseline data that was used in both the development of the business case alternatives and the analysis of benefits and costs. Due to the widely varying formats and levels of detail in which the data was provided, analysis was limited to the following areas: attendance, travel, and related costs; communication infrastructure; current delivery methods; and arrangements with educational institutions.

### 3.3.1 Attendance, Travel, and Related Costs

While comprehensive Departmentwide data was not available, the following sources were used to determine training attendance, travel, and related costs and to extrapolate for the data that was missing.

- Department Training Information System (DTIS)
- Organizations' annual training reports
- Travel data obtained from the Office of Chief Financial Officer
- Office of Training and Human Resource Development reports

Training records for Federal employees extracted from the DTIS data base and reported by the Office of Training and Human Resource Development indicated that on average, for fiscal year 1995, each Federal employee received 57 hours of training and each contractor employee received 63 hours of training. The weighted average for all DOE employees for fiscal year 1995 was 62 hours of training.

Travel data for fiscal year 1995 was only available for Federal employees. The Office of Chief Financial Officer accounting system showed \$4.23 million recorded for training-related travel. A cross check of travel data with DTIS data to determine where Federal employees worked and where they received training indicated that a much larger amount may have been spent than was

recorded. The available data indicated a downward trend in dollars spent on travel for training. This decrease appears to correspond to the Congressional budget cuts that resulted in a 21-percent reduction in training-related travel from 1994 to 1995.

The attendance, training-related travel and other baseline data formed the basis for many of the assumptions that were made in the analysis of benefits and costs for each business case alternative. Descriptions of the alternatives are provided in chapter 5 and appendix F. The assumptions and a description of the analysis of benefits and costs are provided in chapter 6 and appendix H.

### **3.3.2 Communication Infrastructure**

The baseline data gathered for communication infrastructure was sorted into three categories: terrestrial communication capabilities, multimedia/computer-based capabilities, and satellite capabilities. Analysis of the baseline data indicates a broad range of technological maturity levels and a wide variety of communication capabilities with limited corporate-wide interoperability. A summary of the data received is provided in appendix C, tables C-4, C-5, and C-6.

### **3.3.3 Current Delivery Methods**

Based on the data obtained from existing course catalogs, the Department offers approximately 10,000 education and training courses (many redundant) to its Federal and contractor employees. The information obtained for current delivery methods indicates that about 85 percent of all education and training occurs in traditional settings, such as classrooms or through correspondence courses. Multimedia/computer-based training accounted for approximately 5 percent of the delivery methods; on-the-job training and desktop video each accounted for 3 percent; and interactive television and Internet each accounted for 2 percent. A summary of the data that was received is provided in appendix C, table C-7.

It is estimated that between 500 and 1,200 of the 10,000 courses are cross-cutting (e.g., they are applicable to many, if not all, DOE organizations and employees). Cross-cutting courses are the leading candidates for course conversion and technology-supported learning delivery because they have the greatest potential for reaching the largest numbers of students, and achieving the greatest savings. The larger the savings projection, the greater the justification for investing in course preparation and delivery. Cross-cutting courses are also the leading candidates because they provide the greater potential for improving consistency in content and format as they are taught throughout the Department.

### **3.3.4 Arrangements With Educational Institutions**

At least 28 educational institutions provide education and training opportunities to DOE Federal and contractor personnel. A list of these educational institutions is provided in appendix C, table C-3.

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